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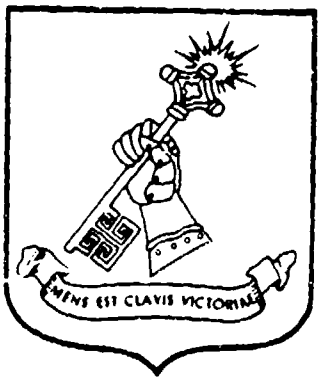
Is Getting There Half the Battle?
Considerations for Deployment of Forces

A Monograph
by
Major Mark A. Bellini
Quartermaster



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ABSTRACT

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This monograph examines the challenges of deploying forces for contingencies around the world. The National Military Policy is evolving as the Defense Department budget steadily shrinks. As the drawdown of forces continues, our forward presence and forward deployed forces will dwindle. For example, by 1995 there will be a fifty percent reduction in U.S. troop strength in Europe. A CONUS based Army will necessitate increased emphasis on our ability to deploy forces.

Three historical deployment examples are examined in this study. The first is the 1940 German invasion of Norway. The other two involve U.S. forces: the 1958 deployment to Lebanon and Desert Shield/Desert Storm. Historical examples, coupled with U.S. deployment capabilities, provide some significant lessons learned used to formulate implications for deployment.

The author concludes that there are three major areas that need attention as our Army goes into the transitionary times of the 1990's. The need for adequate strategic lift can no longer be ignored. We are not prepared to deploy heavy forces with the strategic lift currently in the inventory. The past policy of prepositioning will not make up the lift shortfall, given the multi-polar world we live in. Army officers should be encouraged to seek joint duty because of our need to have officers who understand Air Force and Navy missions and capabilities, not to satisfy the requirements of a law. Forward presence will decrease as our Army recedes into CONUS. However, we need to present as many opportunities to our officers for overseas duty as possible. The importance of maintaining an officer corps that understands other parts of the world is crucial for deployment.

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Table of Contents

Introduction

Before the fall of the Soviet Union in 1991 the American Army was focused on defending western Europe from a Soviet led invasion. This focus was manifested in every facet of the Army. From force development and doctrine to training, Europe permeated the Army's corporate thought process. A look at the Army's "keystone" warfighting manual highlights our preoccupation with the European scenario.

Field Manual (FM) 100-5, Operations, 1986, clearly states that it is "compatible with and will serve as the U.S. implementing document for NATO land forces tactical doctrine".[1] The emphasis is certainly on Europe in this manual. Our equipment development and fielding are prime examples of doctrine's past focus. Most of our equipment is heavy and suited for a large scale conventional fight as was demonstrated during the Persian Gulf War. Even today, while the drawdown of forces in Europe continues at a rapid pace, the majority of our forward deployed forces will still be stationed in Europe.

Further evidence of Europe being predominant in our thought process is in equipment fielding priorities. The continual stream of the most modern equipment sent to Europe in the 1980's was a demonstration of our solid commitment to the North Atlantic Treaty Organization (NATO).[2] Winning the Cold War, as many experts posit, may have been in part due to our modernization efforts in Europe. However,

there is a downside to our efforts. Our policy of forward defense is now being replaced with one of a "capability based force" for contingencies.[3]

Our most recent large scale conflict in Southwest Asia (SWA), a contingency operation, required a monumental effort to transport Army units to the theater. It took six months to assemble the military force structure in SWA before offensive actions could take place. Units from around the world were depleted of personnel and equipment to fill requirements. Even forward deployed units in Europe and their prepositioned equipment were sent to the Gulf.

In addition to drawing on the resources of U.S. Army units from locations around the world, many foreign assets were used in the deployment. Foreign lift assets, especially maritime, were essential to the six month deployment. A combination of forward deployed forces, maritime prepositioning and international strategic lift was needed for this operation.

Pertinent to the discussion of the future ability of our Army to deploy are the doctrinal foundations of the Army as an institution. Occurring simultaneously with the dramatic physical changes in the Army, is the review and rewrite of our basic warfighting doctrine in FM 100-5. The 1986 version of FM 100-5 spells out the doctrinal values of our institution for fighting, once in theater. In the European scenario, forward deployed forces, i.e. the 5th and 7th Corps (US) in Germany,

were the primary U. S. forces that would be reinforced with deployments from CONUS. CONUS based units had their heavy tonnage equipment stored in Europe as part of the Prepositioning of Materiel Configured in Unit Sets (POMCUS). This system relieved much of the burden of deploying forces.[4] The 1986 edition of FM 100-5 has little on deployment. Fortunately, the team rewriting this important manual realizes the need to incorporate this into the new version, and they are preparing a section devoted to deployment.[5]

Even with the prepositioning in Europe, General Bernard Rogers, Chief of Staff, U.S. Army in 1978 said, " The credibility of our conventional deterrence hangs on our ability to deploy and sustain our forces worldwide."[6] To use the power of land warfare we must be able to project it in a timely manner. A mechanized infantry division in the middle of our country is of marginal utility to operational commanders if we cannot move it to the theater of operations in time. Although this is a statement of the obvious, forward deployed forces and prepositioning of equipment has been our policy for defending and reinforcing Europe for the past 45 years. Now, with the Army searching for a threat to model against for doctrine and force development, the potential scope of employing landpower has widened. Deployment capability is even more vital than in 1978 when General Rogers made his statement. Every aspect of deployment is crucial. This monograph examines the complex issues of deployment facing the

Army in the 1990s to arrive at some basic implications for deploying forces.

Historical examples are used to illustrate the complexities and solutions to deployment challenges. The German deployment to Norway in 1940 and the American deployment to Lebanon in 1958 provide historical lessons for large scale deployments. Also incorporated into this study are significant lessons from the deployment of the U.S. VII Corps to SWA for the Gulf War. From these operations, deployment doctrine implications are identified.

Historical Perspective 1
German Deployment to Norway 1940

In the fall of 1939, with the invasion of Poland completed, the German General Staff turned its eyes and minds toward the west. It focused its attention to France and the "low countries" but kept an eye on access to the Atlantic Ocean.[7]

Following the surrender of Poland on 27 September 1939, Hitler held a joint meeting of his air, sea and land chiefs of staff. At this meeting he directed the planning of an attack to the west, named Plan Yellow.[8] Hitler wanted this attack to begin before the end of 1939.

The German Naval Staff determined, as part of their planning for a western offensive, that the naval bases in Norway, in particular the ports at Trondheim

and Narvik, were better for supporting the German Navy than the ports of Holland and Belgium.[9] Admiral Erich Raeder, the head of the German Navy, and other German Naval officers saw the Norwegian ports as vital to maintaining free access to the Atlantic Ocean. Without access to the Atlantic, Germany's trade would cease and her fleet would be bottled up in the North Sea, unable to influence a campaign against Britain and France.

Admiral Raeder discussed the seizing of Norway's ports with Hitler on 10 October 1939. Initially Hitler dismissed Raeder's idea because he was still focused on getting naval and air bases as close to England as possible. The bases in Belgium and Holland were first priority to Hitler because they were closer to England than Norway. Hitler was thinking in terms of joint air and naval operations, while Raeder's concerns appeared to be for the naval component only. Raeder's briefing did persuade Hitler to order a study of the feasibility and benefits of invading Norway. This study was initially named Studie Norde and was ordered by Hitler on 14 December 1939.[10] It was completed by the end of the month.

The invasion of Norway as part of Plan Yellow was definitely a secondary effort in the minds of the military leadership. Even Hitler displayed a waning interest in obtaining bases in Norway within a month after hearing Raeder's briefing. Hitler was focused on Plan Yellow and he did not appreciate the benefits of including Norway into the overall western offensive

campaign.[11]

Norway was important to Germany for many reasons, not just the naval bases Admiral Raeder wanted for his fleet. Germany's commercial and military industries depended on large iron ore shipments from ports across the North Sea. Iron ore from Sweden often went through the Norwegian port of Narvik, especially during the winter months when the Swedish port of Lulea was frozen.[12]

When Studie Norde was completed on 30 December, Raeder stressed the need to keep the British from gaining control of Norway.[13] By January 1940 the winter weather convinced Hitler to wait until spring for the western campaign (Plan Yellow). This provided Hitler the opportunity to focus on Norway.

On 16 February 1940 the German supply ship Altmark, carrying British prisoners, was boarded by the British in a Norwegian Fiord. The British did this over strong protest of the Norwegian government. The Norwegians saw this act as a violation of their neutral waters. The British viewed it quite differently. They claimed that Germany violated the neutrality of Norway's coastal waters and therefore forfeited her rights of uninterrupted transit.[14] Britain's bold act forced Hitler to respond. With Britain's intent clearly out in the open, Hitler had to act to prevent being isolated from the Atlantic. Operation Weseruebung, the invasion of Norway, was Hitler's response.

When the Altmark incident took place, planning for an invasion of Norway was being directed by General Jodl.[15] The planning staff was a small team composed of a representative from each service. This 3 man joint staff cell produced the basic operational plan.[16] The operation would entail elements of air, land and sea services. However, there was no commander designated to lead the joint operation. Being a true joint operation, the selection of the commander would be crucial. Hitler wanted an officer with overseas joint experience. Hitler's personnel selection was an army corps commander who had worked with the navy during service in Finland in 1918.[17] General von Falkenhorst, an apolitical military officer, was summoned to work directly for Hitler on this operation.[18]

Hitler met with Falkenhorst and gave him a quick synopsis of the situation, the work done by General Jodl's planners and the proposed forces at his disposal for the operation. He also gave Falkennorst a few constraints, but generally allowed him wide planning latitude. In about five hours, using a commercial travel map, Falkenhorst prepared a concept plan proposal.[19] Later that day he briefed Hitler on his concept of the operation.[20]

The coordination of efforts of the services was of prime concern for Hitler and Falkenhorst. Both men realized that a joint staff of planners and subject matter experts was needed to sort out the complexities

of integrating and synchronizing all the components. Within 3 days Falkenhorst had enlarged the 3 man joint staff to continue and fully develop the plans Jodl's staff started. Simultaneously, some limited deployment preparations of troops and equipment began.[21]

On 1 March 1940, less than two weeks after Falkenhorst was appointed joint commander, Hitler signed a directive for Operation Weseruebung but left the execution date unspecified.[22] In his directive Hitler gave three specific objectives for the operation. Preventing the British from gaining control of the Scandinavian and Baltic areas was the first. The second and third were to protect the flow of iron ore from Sweden and provide a base of operations for the western campaign against Britain.[23] Meanwhile, Falkenhorst and his staff were busy preparing for a meeting of the three service chiefs to finalize the plans. Coordination of the components' actions was essential. This meeting took place on 5 March 1940.[24]

Falkenhorst's team considered two different deployment options. One was to send the troops in on commercial transports. Once docked in port, they would emerge from their ships à la the Trojan Horse. The other was to send forces in on warships, in an all out assault. Both had drawbacks, but a compromise was reached between the two. Initial forces would arrive in warships and the follow-on forces would be sent in merchant ships. Support and heavy equipment shipping

for the deployment would be disguised as commercial cargo in merchant vessels. The plan called for these merchant vessels to arrive first and be in position before the initial troops arrived.[25] Since the German Navy was short surface shipping, it was forced to use commercial vessels. In addition many ships were used for multiple lifts to make up for the shortfall.[26]

It was not until 7 March that Hitler officially designated forces for the deployment. Although Falkenhorst knew the approximate type and amount of forces allocated when he was given the assignment, he did not know for sure until 7 March. This delay in designating forces was done for security reasons, but it created friction internal and external to Falkenhorst's planning staff. The staff planning Plan Yellow wanted the forces in Weseruebung under its control. The competition for forces and equipment lead to component and inter-service in-fighting.[27]

Weseruebung was actually several synchronized deployments that together formed the invasion operation. Broken down by geographical region, Weseruebung had two distinct zones, north and south. These were subdivided even further. Separate air, land, and sea forces were allocated to each zone and given specific missions.

German Naval strength was no match for the superior British fleet. The British alone had a naval force advantage of at least three to one.[28] Success

for the Germans would require a deception plan, secrecy, surprise and luck. To help with intelligence and in-country liaison the Germans used their longstanding business connections as well as German syrpathizers. Moving such a large force of over 5 divisions across open waters was a real risk for the Germans. Not only were the 5 divisions of soldiers vulnerable but so was a large portion of Germany's surface fleet.

The German Navy, with support of commercial shipping, was tasked to provide the majority of the lift. This included personnel, equipment and cargo shipments. With an assortment of vessels ranging from tugs, whaling ships, and iron ore barges to battle ships, the German armada numbered approximately 70 large ships. This included both of Germany's capital ships, the battleships Gneisenau and Scharnhorst.[29] The plan was for surface ships to land German troops while Unterseeboots (submarines) provided off shore protection. In the northern zone German battle cruisers were to stage a demonstration to draw the British fleet away from the main landing areas.[30] A significant mission of the navy was to return safely from the coast of Norway.[31] After disembarking cargo or carrying out support roles, they were to depart as quickly and safely as possible, since they were no match for the British Navy.[32]

The Germans decided to seize as many main centers of commerce and government in the initial assault as

possible. By doing so, they felt they could paralyze the nation into such a condition that the Norwegians could not resist.[33] Their analysis correctly showed that the Norwegian Army was woefully inadequate to defend the country. The strategy included securing aerial and sea ports as fast as possible. This would allow the Germans unopposed entry needed for follow-on forces. Also, control of all major ports would prevent their use by Britain.

Falkenhorst's reign as the joint commander quickly disintegrated under the weight of protest from the Luftwaffe and Navy. His role reverted to ground component commander during the execution of the operation. However, he was actually more important than the task organization indicated. Of the three component commanders, Falkenhorst was "first among equals".[34]

The land forces mission was to land and attempt to peaceably occupy the country. If not, they were to secure beachheads and Norwegian Army bases. They were not tasked to destroy the Norwegian military or try to occupy the entire the country. It would not have been feasible to attempt this with a force of little more than 5 divisions.[35] Most ground forces arrived by ship, but there were 2 significant airborne landings to secure key areas. They included a 2,500 man drop at Stranager and a 3,000 man drop at Oslo.[36]

The German Air Force had approximately 1000 aircraft allocated for this campaign, half of which

were transports.[37] In addition to transport missions, fighters were tasked to attack British Naval forces, provide close air support for ground forces, and conduct aerial demonstrations over key cities and areas. Some aircraft were designated to support psychological operations by dropping leaflets. The other significant air mission was reconnaissance and observation.[38]

Both the navy and air force components required forward basing to support their operations. To facilitate this, the invasion of Denmark was added to the campaign.[39] Denmark was easily accessible by rail and road nets from Germany. It had air fields and naval ports closer to Norway than Germany. By forward basing supplies, and using captured airfields and naval ports in Denmark, the Luftwaffe and German Navy could better support Operation Weseruebung.

22 March 1940 marked the beginning of the loading operations at ports in northern Germany. By 3 April 1940, the ships going to the most northern ports in Norway were underway. Simultaneous loadings and departures were to continue until the main group loaded and assembled off Germany's shore on 7 April.[40] Of prime concern for the departing troops was secrecy. Troop departures from their bases were explained as regular maneuvers and the staggering of ships helped reduce the growing suspicions concerning the military actions.

On 7 April 1940 German ships were being loaded

with troops for the initial assaults on Norway. Some of the first ships to make the 300 mile voyage from Germany to Norway were transports and cargo ships. Despite the concerns of many senior naval staff officers, these slow ships departed ahead of the faster warships for their destinations.[41]

The actual invasion took place on 9 April and was successful but at a cost. Many of the German military staff members were on board the Blucher that was sunk off the Norwegian coast. The loss of key personnel was severe and Germany lost one of her best long range ships.[42] A blunder occurred when troops were air delivered onto the Oslo airfield while it was still controlled by the Norwegians. A misunderstanding between ground and air elements was the cause.[43]

The overall deployment plan and execution worked well. The Germans achieved surprise against the Norwegians. German control of the important centers of the nation quickly showed the Norwegians it was hopeless for them to resist further. Airfields gained in the initial assault gave the Germans a definite edge in repelling British attempts to drive the Germans off the peninsula. The ability to control the airspace off the coast was essential to the operation.

By sending their transports across the open waters to Norway, the Germans risked losing their entire fleet. The German fleet suffered some severe losses such as the Blucher and other vital ships, but the remaining ships of the fleet survived to continue

deployment operations.

The ability of the Germans to plan and use strategic lift was a cornerstone of this operation. However, it was not the sole success factor. Machines may have enabled the plan to work, but the organization of the planners, the jointness in planning, and familiarity with the opponent were equally important.[44] By taking advantage of the short time they had, the Germans were able to formulate a comprehensive joint plan. The joint staff they formed was essential to the deployment and invasion. Also by initially securing the best port facilities the Germans were able to continue the deployment of forces and open the lines of communications using commercial and military lift assets.

Historical Perspective 2
Lebanon 1958

A more recent example of a large scale successful joint deployment occurred in 1958 when the U.S. sent forces to Lebanon. Forces were sent to Lebanon and remained there for 102 days, serving as a peacekeeping force.[45] This intervention required extensive deployment planning and execution efforts. To fully understand the U.S. military's deployment environment in 1958, some background information is needed.

There are many similarities in the conditions facing our Army in 1958 and today. The Army was

struggling for a mission and its survival as an institution. The higher technological air and sea forces captured the attention of the nation for their "smart" and powerful weaponry. The need for a large ground force was being questioned. However, projecting landpower into Lebanon was required, just as it would be later during Desert Storm, to meet national policy goals.

During the period prior to 1958 there were significant reorganizations in the armed forces, especially the Army's strategic lift. The U.S. Army at one time owned it's own fleet of sea transports. The Army Transport Service (ATS) had large numbers of cargo and passenger ships that were separate from the Navy Transport Service (NTS). In 1947 the newly formed Office of the Secretary of Defense initiated actions that resulted in a consolidation of the two organizations. This reorganization created the Military Sea Transport Service (MSTS) which later became the Military Sealift Command (MSC).[46] This alignment action may have made perfect sense from a management perspective, but it left the Army without an independent method of deployment. In this non-joint period, the Army was at the mercy of the Air Force and the Navy for deployment because they controlled the strategic lift assets.

After the establishment of the MSTS the Army remained the largest customer of Naval transport shipping. MSTS had sufficient ships for the tonnages

the Army required, especially after the reorganization. They could haul two Army divisions into a theater in a matter of approximately 30 days. This was tempered by load, unload times, and the port arrival of the cargo ships.[47] This ability was essential for supporting the emerging foreign policy of the United States.

The Army relied on the Military Air Transportation Service (MATS) to deploy quickly by air. Quantifying the ton miles of transport required for Army forces resulted in an estimate of approximately 88 million.[48] This figure was almost half of the total ton miles available for all services. The 188 ton-miles capacity included 350 aircraft from the Civil Reserve Air Fleet (CRAF) that were excellent for hauling troops but less than desirable for cargo.[49]

The Army was just one of many of MATS customers and they could not rely on dedicated tonnage shipment for contingencies. As the need arose, they had to request MATS services. This created an uncertainty for planners who were working on various contingencies.

The Middle East scenario required over 120 million ton-miles for a twenty day arrival of sufficient Army forces for a limited war.[50] That was a significant percentage of the total shipping tonnage available. There was certainly not enough to meet the competing needs of the various service commitments around the world and support the Army's requirement for the Middle East.

With the nation's focus on technology at this

time, the Army was concerned that they might be last priority behind the highly technical Air Force.[51] This was evidenced by the refusal of the JCS to allocate any aircraft for Army contingencies in advance. Army commanders and planners continued to plan deployments regardless of the aircraft situation.[52]

Aircraft were stationed around the world near ground forces and air delivery was the preferred method for deploying lead elements. Unfortunately, MATS aircraft at the time were old and verging on obsolescence. The sea lift situation was better.

In January 1958 the Navy commissioned its first roll-on roll-off ship (RORO). These ships were designed specifically for rapid loading and unloading of combat vehicles. They were purchased as the result of an Army initiative in the 1950's to get this type of lift capability. The first commissioned RORO ship, the USNS Comet, reached a speed of 18 knots and could haul 700 vehicles in addition to general cargo.[53]

The United States foreign policy of the 1950's was the Eisenhower Doctrine, similar to the Truman Doctrine of the previous decade.[54] Under this doctrine, the U.S. would support nations in danger of leaning towards Communism with aid, both economic and military. This doctrine was established in January 1957 and within eighteen months was tested in Lebanon.[55]

In the 1950's the Middle East region of the world was, as it is today, a hotbed of conflict. Religious

and political differences separated many nations as well as regions and sects in nations. Lebanon was no different. She received her independence in 1943 and had been in turmoil since then.

Fortunately U.S. military planners from the various services had been considering the possibility of operations in the Middle East for some time. As early as 1956 the Army's Continental Army Command (CONARC) was developing a family of plans for Middle East contingencies.[56] The Army developed a contingency plan named Swaggerstick in five months. As written, it was strictly an Army operation even though it required Air Force lift for the deployment.[57] In its original form it called for two divisions from the Strategic Army Corps (STRAC) to be airlifted into the Middle East theater.[58]

The Army designed STRAC to be a "flexible, mobile strike capability."[59] It was composed of two divisions, the 101st Airborne and the 4th Infantry, with the XVIII Airborne Corps responsible for providing logistical support. These forces would be reinforced by two more divisions, the 1st Infantry and the 82nd Airborne.[60]

The Army made the mistake of not staffing Swaggerstick with the Joint Chiefs of Staff (JCS). Because it was not staffed, the JCS did not allocate any resources to it as a contingency. The Army's failure to seek JCS approval and resourcing for the plan doomed it from the beginning.[61] Without the

assistance of the Air Force, the Army could not execute the plan.

The planners of Swaggerstick foresaw the logistical requirements for such an operation. To carry out this mission, planners were busy gathering the information needed to prepackage stocks in the United States and in Europe. Continental United States (CONUS) depots were tasked to prepare almost 50,000 tons of supplies for shipment.[62] Because of the scarcity of strategic lift, priorities for supplies were established by planners. Food, fuel and ammunition were first priority.[63] These supplies were scheduled for delivery on a push basis. Repair parts were given lower priority, with only those parts needed by equipment operators and their organic mechanics allowed.

While the Army was developing its unilateral contingency plan, Swaggerstick, the rest of the Department of Defense was also actively planning to deal with a Middle East crisis. In 1956 the JCS gave the Commander in Chief, Naval Element, Mediterranean (CINCNELM) a contingency planning mission. In the event of a regional crisis he would assume the role of Commander in Chief, Specified Command, Middle East (CINCSPECOMME) in command of joint forces. Major players were the U.S. Sixth Fleet, Commander in Chief U.S. Air Forces, Europe (CINCUSAFE), MSTS, Military Air Transport Service (MATS) and Commander in Chief U.S. Army, Europe (CINCEUR).[64] The Army portion of

CINCEUR was made up of two battle groups from the 24th Infantry Division and logistics units. Together they formed Army Task Force 201 and numbered over 10,000 troops.[65] These forward deployed forces were closer to the Middle East theater and there was strategic airlift already in theater to support the deployment.

Bluebat was one of CINCNELM's contingency plans for the Middle East. It was actually a combined plan using U.S. and British forces. In the plan, the Marines would do the initial assault and be followed by air and sea delivery of Army units. For training, the Marine Corps had been planning a combined landing exercise of this type with the British and Italians in the Mediterranean in 1958.[66]

Besides the major planning, the Marine Corps sent an officer to Lebanon to get a first hand look at the country and the facilities there. Major Victor Stoyanow, an active duty Marine, had travelled incognito in Lebanon and visited the beaches before Lebanon's request.[67] This personal reconnaissance proved invaluable to the Marines who planned and conducted the actual Marine landing on 15 July 1958. Also, State Department officials in Lebanon provided the military some valuable intelligence about the area, the local military and the facilities.

In Lebanon, in 1958, various factions were tearing at the very fabric of the nation. The ruling administration was headed by Camille Chamoun, a Christian. A faction consisting of former members of

the Lebanese Parliament formed a group called the "National Union Front" (NUF) to oppose Chamoun's Christian administration.[68] By July 1958 Lebanon was in a state of chaos. Riots and fighting on the streets threatened the stability of the government. On 14 July 1958 Chamoun requested U.S. assistance to stabilize his government.[69]

Within hours of Chamoun's request the Sixth U.S. Fleet (Mediterranean) was ordered to land Marines in Lebanon. President Eisenhower's response to Chamoun was fast, but his goals for the military were not very clear. He sought to restore peace and order in Lebanon. However, it was unclear to the military commanders what role they would play.[70]

Vice Admiral Charles R. Brown, Sixth Fleet commander, received the President's order to land Marines in Lebanon and serve as a peacekeeping force. His forces included 3 carriers, 2 cruisers, 22 destroyers and 50 other ships for support.[71] Under his command, U.S. Marines landed unopposed 4 miles south of Beirut, close to the Beirut Airport on 15 July 1958 at 1504 hours. They were greeted by cheering sunbathers and drink vendors.[72] Within hours the airport was guarded by Marines and liaison with loyal Lebanon forces initiated.

While this was taking place, other U.S. forces were deploying to the area. Paratroopers from the 24th Division stationed in Augsburg, Germany were being flown in by C-124 aircraft. Air Force fighters were

sent from their bases in North and South Carolina.[73] Within ten days there were nearly 11,000 ground troops in Lebanon, including 6,600 Marines and 4,000 Army. The buildup of forces continued until it reached a high of 14,000 by August.[74]

This was a tremendous logistics effort for the United States even though the troop strength in Lebanon was under 15,000, less than a current heavy Army division. Getting this relatively light force to Lebanon and supporting it required the effort of units from around the world. No one service could do it alone nor could units be pulled from only one theater.

This deployment demonstrated that planning should begin as soon as possible. The fact that the Army and the Navy were planning on their own for the region is a good example of forward looking planners and commanders. However, the initial lack of joint planning and low integration of Department of Defense (DOD) pre-crisis efforts should not be repeated. Deployment is a multi-service operation, from planning to execution and everything in between.

The flexibility demonstrated by forward deployed forces was exceptional. Army units in Europe met the challenges given them of fulfilling contingency roles outside their normal area of operations. This deployment also demonstrated that even small troop and equipment strength operations require the efforts of DOD personnel and assets from around the world.

Another important aspect of this operation was

personal reconnaissance of the area by diplomatic and military personnel. The forward presence of Americans gave the planners and commanders "eyes". They did not have to deploy blindly into the area.

Historical Perspective 3
Southwest Asia 1990-91, VII CORPS

The United States, as part of a multi-national coalition, sent forces to Southwest Asia (SWA) beginning in August 1990. The President gave the military the mission under the auspices of numerous United Nations (UN) resolutions to eject Iraqi forces from Kuwait. Between August 1990 and February 1991 approximately 500,000 U.S. troops arrived in theater. As early as December 1990 the Army Deputy Chief of Staff for Logiutics (DCSLOG) proclaimed this as the "farthest and most rapid buildup of forces to an area of operation in our nation's history."[75]

Commander in Chief (CINC) Central Command (CENTCOM), headquartered at McDill Air Force Base in Florida was the supported CINC for this deployment. CINC CENTCOM set deployment priorities while CINC Transportation Command (TRANSCOM), as a supporting CINC, was responsible for the actual movements.

One of the Army Corps that deployed to SWA was the VII Corps (US). The VII Corps, stationed in Germany, was ordered to deploy on 8 November 1991. Within 4

days the first movement of her units began.[76] To get the Corps to ports of debarkation (POD) in Germany required the use of 465 trains, 119 convoys and 312 barges.[77] From these PODs it took 435 aircraft and 109 ships to move to SWA. In addition, the forces joining the VII Corps from CONUS used 31 ships and 143 aircraft.[78]

It was a monumental deployment of heavy forces. But this corps deployment involved more than just moving forces. The Corps reorganized prior to and during its deployment. VII Corps' 1st Armored Division and V Corps 3rd Armored Division were the 2 divisions that would deploy as part of the Corps. This gave VII Corps the most modern armored force possible. Also by taking only 2 divisions from the European theater, units could cross level with the 3rd Infantry and 8th Infantry Divisions to fill shortages.[79] Soldiers and equipment from other units in theater were sent to the deploying units.

Since VII Corps was a forward deployed Corps it was not prepared to deploy out of theater. VII Corps had developed habitual relationships with host nation support capabilities and civilian contractors to augment its military support structure. This made it difficult for VII Corps to deploy without first adding support units to make up for the loss of host nation support (HNS). The Corps Support Command (COSCOM) actually trebled in size by the time the ground war in SWA began. It went from a predeployment size of 8,000

to 24,000 troops. Clearly the Corps was not structured for the mission it received.

Compounding deployment issues of the Corps were the units and individual soldiers coming to be a part of VII Corps from the United States. Many of these units were reserve units called to active duty.[80] VII Corps needed reserve components especially to fill critical Combat Support (CS) and Combat Service Support (CSS) requirements.

Fortunately, the composition of the restructured VII Corps was established before the 8 November deployment announcement. Early warning to the Corps gave the planning staff some time to sort out the requirements for this operation.[81] Establishing the Corps structure early allowed the Corps commander to immediately gather his subordinate commanders and planners to discuss and resolve the issues including deployment.[82]

Immediately after the Corps Commander, Lieutenant General Frederick M. Franks, met with his subordinate commanders, he and key members of his team went to Saudi Arabia for a leaders' reconnaissance.[83] This proved to be very beneficial for their Corps. Ports were selected and a time phased deployment schedule was developed. An important part of their reconnaissance was the face-to-face contact with commanders already there.[84]

Commanders in SWA told the VII Corps leadership what to bring, what commercial items to buy, how to

sequence units in theater and what to expect in the way of support once there. The Corps was able to take advantage of the experience and knowledge gained by other units.

The VII Corps profited from a lot of different "lessons learned" from commanders previously deployed and the Corps did a remarkable job of deploying, considering the circumstances. There were, however, areas where its deployment did not go smoothly.

Doctrine, more specifically the lack of it, was noted by the corps observers and the interviewed commanders and staff. From moving large forces to the port to loading and unloading in theater, there was a perception that deployment doctrine needs to be more specific.[85] Keeping track of inland shipments to the ports in Europe became difficult. Multiple modes were used, i.e. barge, rail, motor convoy, etc. to get to various ports. The various elements that controlled the shipments knew what they had. However, the flow of this information back to the deploying units was not efficient. This lack of feedback caused these units to inundate transportation officials with requests for information, diverting their time and other resources.[86]

Lack of trust in the system caused problems at home station and in theater. Many units were advised by others already in SWA to "bring all you can from home station".[87] There was a perception that if you did not take it with you, you would never get it in

SWA. Even the Stars and Stripes in Germany ran several articles about supply shortages in SWA. Whether they were factual or not did not matter. Recurring supply shortage stories gave more credence to the "bring all you can" attitude.[88] Lots of recommendations for bringing "needed" things and supply fears helped inflate the Corps' shipping container requirement.

The limited number of containers in Europe coupled with an inflated container requirement put containers at a premium.[89] Unfortunately, in the scramble to get containers, some units loaded containers designated for other units. This caused several problems. Some units were short containers, the control of containers and their movement was complicated, and unit integrity of those involved became much more difficult.[90] This also strained the transportation assets throughout the entire deployment.

Trust also created other problems in SWA. Some units experienced theft of their equipment and supplies, reportedly by other U.S. units. Items reported stolen ranged from toilet seats to generators and vehicles.[91]

When ships arrived at the port Terminal Transfer Units (TTU) surveyed them to determine the load plan. Since these ships were of different types and configurations, TTUs rarely knew what type of hull would arrive next. Consequently, TTUs could not preplan loads.

Many break bulk ships were used. To make

efficient use of these commercial type ships cargo tie down rings were welded in the floors of these commercial ships that were designed for hauling bulk goods like grain. This enabled faster vehicle loading and tie down and eliminated most blocking and bracing requirements. This cut typical loading time by three-quarters. The cost was approximately $10,000 per ship but it saved time loading and off loading and proved worth the expense.[92]

The composition of ships' loads and unit integrity of shipments were issues. Transportation officials did their best to maximize the tonnage shipped; in doing so they cross leveled equipment from different units to make the best use of space. In the process many trailers were separated from their prime movers and the rest of their unit's equipment. The mixed ship types and staggered arrival of unit equipment to the ports contributed to this problem.[93]

Since unit commanders wanted to keep all of their equipment together for the shipment and the transporters were trying to maximize shipping capacity, their different goals lead to conflict. This conflict resulted in delayed cargo in addition to frustrated troops trying to get the job done.[94]

Once in theater, problems unloading developed. The methods used at the loading ports affected the unloading. Unmarked and poorly marked containers had to be opened to determine the contents and destination. Poorly marked cargo became frustrated at the port and

throughout its transit to its owner.[95] Those ships that were loaded without all prime movers were more difficult to unload, requiring more time and assets. Compounding this was the absence of accurate stowage plans for each ship.[96]

Initially the ports in SWA were used as logistics bases. This was because the construction of logistics bases in SWA was simultaneous with the arrival of the first shipments. Many containers were opened and their contents distributed at the port. This added congestion to the area, tied up truck and material handling equipment (MHE), and further frustrated cargo.[97]

After an intense period of preparation for deployment, VII Corps personnel who had shipped their equipment were flown into the theater. Troops who were not quickly united with their equipment became a drain on the already strained logistics system. Getting the troops in theater as quickly as possible and getting them acclimatized did allow time for training and rehearsals. However, what took place in some instances was not so positive. Some troops arrived months before they were united with their equipment. Their presence diverted lift and MHE assets from unloading ships to support them, i.e. daily shipments of food, water etc.[98] The long sea delivery times and delays of unloading ships and distribution from the ports extended the time it took to unite troops with their equipment.[99]

Clearly the deployment of the VII Corps was a remarkable achievement. In spite of some of the negative observations outlined here, we should not lose sight of its achievements. The Corps commander and his team took a forward deployed corps and "on the fly" turned it into a contingency corps in short order. The forward looking vision and planning of the entire team certainly lead to the Corps success.

From this case study we learn the importance of all active and reserve units being prepared for out of area missions. Fortunately the mission did not come as a surprise to the VII Corps so they were able to develop the plans to deploy out of their theater.

Units must have faith in their deployment systems. During the SWA deployments trust was lacking in the supply system and in parts of the movement. This trust issue transcends more than just the morale aspects of soldiers losing faith in what they are doing. It, as shown in this case, can lead to in-fighting between units and strain the strategic lift assets available.

U.S. Capabilities

The United States has a wealth of deployment resources. The question is are they sufficient to support our national military policies? The President has declared the importance of deployment capabilities in meeting our national security strategy:

> Our strategy demands we be able to move men and materiel to the scene of a crisis at a pace and in numbers sufficient to field an overwhelming force.[100]

To meet these challenges the United States has a joint command to manage strategic lift worldwide and rail and highway cargo shipments in CONUS. These national lift assets are consolidated and managed by the joint Transportation Command (TRANSCOM). TRANSCOM was established as a joint headquarters in 1987 with a specific charter to manage strategic lift. TRANSCOM has three subordinate component transportation commands: The Military Airlift Command (MAC), the Military Sealift Command (MSC), and the Military Traffic Management Command (MTMC). Together, under the command of the CINC TRANSCOM, they have the mission to "provide global air, land and sea transportation to deploy, employ and sustain military forces to meet national security objectives".[101]

Unified and specified commanders compete for lift on a routine basis. But, in the event of a regional

crisis, TRANSCOM would serve as a supporting CINC to the warfighting CINC and priority of support would be clearly stated by the Joint Chiefs of Staff. For contingency planning, CINCs are apportioned forces and strategic lift.

The shortage of strategic lift has been documented since the first World War when we depended on allies to ship our equipment to Europe. Each succeeding generation has documented the lift shortfall to basically no avail. The prepositioning of unit sets in Europe was a method of reducing the requirement for lift.[102] That approach only works if you know where the next war will take place. Since the next war location is unknown, prepositioning on every continent is not a feasible or fiscally possible method, thus the requirement for lift goes up.

Most of the Army's forces and all of the strategic lift have been apportioned to several CINCs at the same time. This is a known and accepted risk. We do not have sufficient forces and lift to support all CINCs contingency plans at the same time. Further, we can afford some risk because the likelihood of total war is low.

Army lift requirements alone far outweigh the available lift. It would take all of MAC's aircraft and stage I of CRAF to deploy a mechanized division in

22 days to the Persian Gulf.[103] This is if all MAC airlift assets were dedicated to this one mission.[104] All the while, the C-130, C-141 and C-5A fleets age further into obsolescence.

Countless studies have documented the shortfall in strategic lift. For air alone the estimates of the requirements have ranged from 71 to 125 million tons miles per day (MTM/D). The Department of Defense (DOD) accepted a "fiscally constrained" 66 MTM/D as a goal for strategic airlift.[105] To put this figure into perspective, a mechanized division requires approximately 150 MTM/D to get to Europe.[106] Currently, including CRAF, we are far below that level at approximately 47 MTM/D. The C-17 aircraft was scheduled to contribute almost 28 MTM/D by 1996. However the first deliveries have yet to take place and domestic fiscal concerns cast a shadow over the future of this aircraft.

Sealift is in better condition. Due to many reasons, including the lack of airlift, most Army equipment will deploy by sealift. Approximately 95% of all Army cargo will deploy by sea. It is the most economical for our heavy and often "outsized" equipment. The 8 RORO ships in the inventory proved their worth during Desert Shield. One mechanized division requires all of them to deploy.[107]

The Marine Corps has a prepositioning capability that has significant benefits for deployment. They have 13 commercial ships chartered by MSC for prepositioning. These ships, divided into 3 squadrons, are sufficient to store and support 3 Marine Expeditionary Brigades (MEB). Each MEB is composed of approximately 16,500 troops. The prepositioning fleet has 25 vessels stationed worldwide, primarily to support Marine Expeditionary forces. This is after the Navy spent over 7 billion dollars upgrading their sealift capacity during the period 1980-1989.[108]

Implications

Lessons learned is a misnomer that the US military still uses in evaluating an action or event. What we observed from the historical examples are lessons learned only if we are corporately willing and able to free ourselves and organizations from the mistakes and errors made by those before us. Many times we are not. If we are neither willing or able to use the lessons from others, then what we have examined are just observations. Repeatedly making the same mistakes verifies this.

Strategic lift is one area were we have more observations than lessons learned. We are little more

prepared today than we were 35 years ago. Some may look to the Gulf War as proof that we have sufficient strategic lift for large scale deployments. However, close examination reveals otherwise. It took 6 months and the efforts of the entire military and other federal and civilian agencies, as well as foreign nations, to meet the deployment requirements for 2 corps. It was a remarkable feat, but it was not proof that the United States is capable of *rapidly* deploying a heavy corps.

There are many doctrinal implications from the historical examples covered in this study. Some of these are similar to the principles and tenets of war already promulgated and adhered to by our current airland battle doctrine. Other implications can stand alone, separate from our warfighting doctrine.

An initial implication is that deployment by its very nature is a joint operation. Our current Army force structure dictates the requirement for joint coordination and cooperation. The Air Force and Navy have *all* the strategic lift, leaving the Army out of the game unless someone else gets them there. Since this is the case, it is in the Army's best institutional interest to integrate as many of our officers into joint positions within Air Force and Navy commands as possible.

Joint duty has obvious benefits for professional development purposes, planning and "forward presence" in these vital commands. Our ability to understand the fiscal aspect of our sister services operations is another important benefit of joint duty. As in the case of the RORO ships in the 1950's and again in the 1980's, it was the Army's role that made the difference in getting the resourcing for this equipment that we will not control, but need for deployment.

As the Army draws down, there will be increasing demands on our officers to seek and retain troop assignments in their primary branch to remain competitive. The Goldwater Nichols Act of 1986 requires joint service for promotion to flag rank. Most of our officers realize that the prospects for flag rank are so low that they will seek branch related positions instead. At a recent career development briefing a speaker said, "why go joint if you are not going to be a general officer... that is the only reason you would want to do that."[109] If this attitude spreads it will undermine the efforts of the Joint Chiefs of Staff (JCS) to unite our armed forces into a cohesive force. The Army's ability to deploy is rooted in the Air Force and Navy. Only as part of a joint team can the Army successfully deploy; therefore Army officers must seek out joint duty assignments

regardless of the flag rank potential.

From the Lebanon and SWA case studies it is apparent that we should discontinue attaching a mission label to a corps. Especially in a smaller Army, all corps will be "contingency corps" of one type or another. Either they will tasked to perform a specific mission or support the deployment of another corps. Since the corps and it's support units are the basic fighting element of the Army, it only makes sense to ensure that all corps have the flexibility and agility to serve as contingency corps. The forward location of VII Corps enabled it to project considerable combat power unencumbered with the deployment operations at CONUS ports. In effect they were free to operate semi-independently.

Since all Army corps have the potential to become contingency corps, they should be staffed adequately with a joint planning cell that has as one of its missions deployment planning and liaison. Deployment is far too complicated, given it's inherent joint nature, to wait until it is time to execute to form a joint team. The Army corps also has the potential to be tasked to perform the role of a Joint Task Force (JTF). Right now there is not the cross service information in the corps staff in many areas, including deployment, to perform as a JTF without augmentation.

We must maintain sufficient strategic lift to move heavy forces and the trained people to conduct our deployments. In 1958 our Air Force air frames were becoming obsolete and there was a heavy dependence on CRAF. Today we are in a similar situation. Even with all the work done over the last 10 years, we are still without a replacement for the aging C-141 and C-5A fleets.[110]

Our RORO capability is not much better than it was in 1958 when we had 8 of these ships. We still have only 8 SL-7 Fast Sealift Ship (FSS) class ships.[111] Increasing our ability to rapidly transport heavy forces requires an investment in these ships. Clearly we cannot depend on only 8 ships of this type if we expect to deploy a modern heavy force in under 30 days to distant regions.

When the average consumer buys a car he realizes that within a certain amount of time it will wear out. The Defense Department is not an average consumer, but the equipment it buys will still wear out. How many times will we rebuild, modify or "stretch" our strategic lift before it wears out? Force modernization of our strategic lift should be a continuous process.

In all the historical examples, deployment success was partially attributed to the nation projecting power

having an advance party in country. Our Army is changing from a forward based/forward presence force to a deployable contingency force. We will certainly lose some of our regional experts and prepositioned staff around the world in the process. Just because we are leaving Europe as fast as we can, does not mean that we will not be going back there with forces in the future. As the number of U.S. forces stationed in Europe dwindles, so does the pool of experienced officers who understand this region from a first hand basis.

Deployments of any scale require a large pool of knowledgeable, skilled planners. The background gained from a tour of duty in a foreign area has immense benefits. Our withdrawal of forces stationed around the world may affect our ability to raise succeeding generations of region specific, knowledgeable officers.

In addition to the background benefits of forward presence, the intelligence collection ability of someone who is physically there is immense. The State Department officials in Lebanon proved vital to that operation; but they looked through the eyes of a diplomat. A military officer looks through different lenses, and together an accurate picture of the local situation can be drawn for planners to visualize.

Forward bases of operations improve the ability of our country to conduct deployments. In all three

examples presented in this study forward basing eased the deployments. Even if the forward deployed elements are not in the theater of operations, their separation from the CONUS base has advantages. As the deployments for Lebanon and Desert Storm/Desert Shield proved, our forces in Europe provided a separate deployment capacity that contributed to the success of the mission.

Overseas ports can be critical for any large scale deployment. By maintaining access to overseas ports we add flexibility to deployment execution. The staging bases, once again in Europe, enabled the Air Force to stage cargo near the theater but far enough away not to be at direct risk during the Lebanon and SWA deployments.

Another benefit of forward bases of operations is similar to what is gained by forward presence of forces: our future planners and leaders have the opportunity to work with and become acquainted with forces that may be coalition partners in future conflicts. The worldliness of our current generation of officers, due in part to tours of duty in Europe and the Pacific is not quantifiable. However, retrenchment of our forces overseas may eventually lead to a generation of U.S. officers who will view the world from an American perspective; not from a combined

forces viewpoint. Coalition warfare is the way we will fight in the future. The precedent set from the Gulf War will have an influence on our use of military force in future operations. According to the recently published Joint Pub 1, Joint Warfare of the US Armed Forces, our ability to cooperate with other nations will be a requirement.[112]

The importance of ports from both ends of a deployment should not be underestimated. Minimizing loading and unloading time at ship ports and air terminals is a priority during deployment. Plans for staging and lodgement areas need to be well thought out for the volume of cargo involved. The port situation in SWA was next to ideal, yet countless tons of cargo were frustrated; while troops waited for their equipment. This leads to the synchronization challenge.

Deployments should be sequenced to synchronize, in time and space, the marrying of the necessary force structure. The operational planner for a large scale deployment should understand the significance of sequencing force structure into the theater. To capture the synergism of joint and combined arms power, the mosaic of the pieces need to fit together sequentially, not collide.

Deployment is an important aspect of projecting

combat power. A smaller total force that is primarily based in the Continental United States (CONUS) will hamper our ability to project power in the future. While we may not be able to seek force structure increases, we can improve our strategic lift capability. If we improve our strategic lift capability we will make our Army a truly deployable force, ready to support our national military goals.

ENDNOTES

1. Department of the Army, FM 100-5 Operations, (Washington: U.S. Government Printing Office, 5 May 1986), i.

2. While stationed in Europe in the late 1980's I saw 3 versions of the M1 main battle tank fielded to the same unit. This was while some units in the United States were still equipped with the much older M60 main battle tank. This is addition to other modernization such as the M2 Bradley series fielding.

3. "Capability based force" is an emerging term used in the Army to describe a force structure that is "capable" against an unknown threat. To date there has not been an official definition of this term. The 1992/3 edition of FM 100-5 which is being written concurrently with this study may address this.

4. Association of the United States Army, Strategic Mobility, Getting There is the Big Problem, (Arlington: Institute of Land Warfare, December 1989), 14-15.

5. Draft Chapter of FM 100-5, Deployment, undated, unpublished.

6. Association of the United States Army, Strategic Mobility, Can We Get There From Here-In Time?, Arlington: Institute of Land Warfare, 1984), 3.

7. The low countries referred to include Belgium, the Netherlands etc.

8. Earle F. Ziemke, The Northern Theater of Operations 1940-1945 (DA PAM 20-271), (Washington: U.S. Government Printing Office, 15 May 1959), 3.

9. Ziemke, 6.

10. James E. Bremer, The Altmark Incident and Hitler's Decision to Invade Norway: A Reappraisal, (Fort Leavenworth: Command and General Staff College, June 1968), vi, 26. The date Hitler ordered Studie Norde has been a source of controversy since the Nurenberg trials. The diaries of the men involved reflect different dates, but all are within two days of the 14th of December 1939.

11. Ziemke, 7.

12. Ziemke, 2-3.

13. Bremer, 32.

14. Bremer, 44-48.

15. Nathan J. Powers, Search for Deployment Theory: The German Campaign in Norway April 1940, SAMS Monograph, (FT Leavenworth: U. S. Army Command and General Staff College, 26 April 1988), 8.

16. J. L. Moulton, A Study of Warfare in Three Dimensions, (Athens: The Ohio University Press, 1967), 52.

17. Bremer, 48.

18. Ziemke, 18.

19. Bremer, 46-49.

20. Bremer, 49.

21. Bremer, 51.

22. Bremer, 53.

23. Ziemke, 17-18.

24. Bremer, 56.

25. Powers, 9.

26. Powers, 10.

27. Ziemke, 19.

28. Bremer, 3-6.

29. Trevor Nevitt Dupuy, European Land Battles, 1939-1943, (New York: Franklin Watts, Inc., 1962), 27 and Ziemke, 26-29, Bremer, 80.

30. Len Deighton, Blitzkrieg from the Rise of Hitler to the Fall of Dunkirk, (New York: Ballantine Books, May 1982), 79.

31. Moulton, 65.

32. Deighton, 82-83.

33. Ziemke, 27.

34. Ziemke, 31 and Moulton, 68.

35. Ziemke, 32-36.

36. Deighton, 80-81.

37. Ziemke, 37.

38. Ziemke, 37.

39. Powers, 15.

40. Ziemke, 40.

41. Ziemke, 40.

42. Deighton, 82.

43. Deighton, 82.

44. The nature of war must be evaluated before and during the planning of a campaign. In this instance the Germans were very familiar with their opponent. They were business traders and vacationers in each others country. The German knowledge of the areas invaded and the waters to and around the land mass contributed to the planning process.

45. Roger J. Spiller, Leavenworth Papers # 3, "Not War But Like War": The American Intervention in Lebanon, (FT Leavenworth: Combat Studies Institute, January 1981), 1.

46. John H. Cushman, Command and Control of Theater Forces: The Future of Force Projection Operations, Draft, (Cambridge: Center for Information Policy Research, June 1991), 30.

47. Gary H. Wade, Research Survey # 3, Rapid Deployment Logistics: Lebanon, 1958, (FT Leavenworth: Combat Studies Institute, October, 1984), 10.

48. Tons miles is the movement of 1 ton a distance of one mile.

49. Wade, 8-9.

50. Wade, 8-9.

51. A.J. Bascevich, The Pentomic Era, The U.S. Army Between Korea and Vietnam, (Washington: National Defense University Press, 1986), 13-18.

52. Wade, 8-9.

53. Wade cites Janes Fighting Ships, 1957-1958, (New York: McGraw Hill Book Company, 1957) as his source for this information.

54. Spiller, 2.

55. Wade, ix.

56. Spiller, 7.

57. Spiller, 8.

58. Wade, 10.

59. Wade, 7.

60. Wade, 7.

61. Wade, 10-11.

62. Wade, 14.

63. Wade, 14.

64. Wade, 11.

65. Wade, 11.

66. Shulimson, 7.

67. Shulimson, 8.

68. Spiller, 6-7.

69. Wade, ix and Spiller, 18.

70. Wade, ix and Spiller, 15-30.

71. Shulimson, 7.

72. Shulimson, 10-13.

73. Robert Murphy, Diplomat Among Warriors, (Garden City: Doubleday & Company Inc., 1964), 398.

74. Murphy, 400-408.

75. Department of the Army, Operation Desert Shield Deployment Lessons, (Washington: U.S. Government Printing Office, December 1990), i.

76. Peter S. Kindsvatter, *VII Corps in the Gulf War, Deployment and Preparation for Desert Storm*, Military Review, January 1992, 3.

77. Kindsvatter, 3.

78. Kindsvatter, 3.

79. Kindsvatter, 3.

80. Kindsvatter, 4.

81. Kindsvatter, 3.

82. Kindsvatter, 3.

83. Kindsvatter, 5.

84. Kindsvatter, 5-7.

85. Lawrence F. Ramsey, Observations 88, 117, Center for Army Lessons Learned (CALL) FT Leavenworth.

86. Ramsey, CALL Observation 88.

87. Major Nations, CALL Observation 4 dated 3 January 1991 and Michael Sandbridge CALL Final Memorandum, 1-2.

88. Major Nations, CALL Observation 14, dated 17 December 1990 and *Stars and Stripes* article attached to this observation.

89. Ramsey, CALL Observation 78.

90. Ramsey, CALL Observation 130.

91. Major Nations, Observation 3, dated 29 December 1990 and Observation 1 dated 2 Feb 91.

92. Ramsey, CALL Observation 117.

93. Ramsey, CALL Observation Final Memorandum, 1-2.

94. Thomas L. Moore, CALL Final Memorandum, 5 April 1991, 1-3.

95. Ramsey, CALL Observation 150.

96. Ramsey, CALL Observation 148.

97. Ramsey, CALL Observation 149.

98. Thomas L. Moore, CALL Final Memorandum, 5 April 1991, 2.

99. Maj Nations, CALL Observation 1, dated 3 January 1991.

100. National Security Strategy of the United States, (Washington: The White House, August 1991), 28-29.

101. Association of the United States Army, Strategic Mobility Study, 1989, 5.

102. Association of the United States Army, Strategic Mobility Study, 1984, 23.

103. Stage 1 of CRAF includes approximately 50 civilian aircraft. The number of aircraft in each stage vary from month to month. Source - Association of the United States Army, Strategic Mobility Study 1989, 10.

104. Stuart L. Perkins, Global Demands: Limited Forces US Army Deployment, (Washington: National Defense University, 1984)44-45.

105. Department of Defense, United States Military Posture for 1989, (Washington: The Joint Staff), 1989, 75.

106. Association of the United States Army, Strategic Mobility Study, 1989, 11.

107. Military Traffic Management Command, MTMCTEA Report OA 88-4f-25, Transportation Assets Required for Deployment, September 1989, B-385.

108. Association of the United States Army, Strategic Mobility Study, 1989, 13-14.

109. This was heard at a career development session by a colleague of the author. Due to the nature of this briefing and the frankness with which the speaker spoke, it is nonattributable to him. Although nonattribution is appropriate for this type of briefing, the issue is worthy of inclusion in this study.

110. While serving as a proponent action officer in 1983-84 the author was part of an Army team that actively supported the C-17 program for Army uses. Almost 10 years later we are still without this or a similar aircraft.

111. MTMCTEA Report OA 88-4f-25, 9.

112. Joint Chiefs of Staff, Joint Warfare of the US Armed Forces, (Washington: National Defense University, 11 November 1991), 41-43.

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U.S. Army. Army Focus. Washington D.C.: Department of the Army, June 1991.

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